CASE REPORT

Successful Management of Disseminated Cutaneous Varicella-zoster Infection in Post Renal Transplant Patient: A Case Report

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ABSTRACT

Viral infections are one of the common causes of morbidity and mortality in post-transplant patients. Varicella-zoster virus (VZV) infection is one of the common infections occurring in these patients. Immunocompromised status increases the risk of VZV reactivation because of reduced T cell-mediated immunity. Reactivation causes dermatomal herpes-zoster or rarely severe disseminated zoster which may include diffuse rash, pneumonitis, hepatitis and encephalitis. There are high chances of diagnostic delay and increased morbidity in immunocompromised patients because many of them can have atypical VZV infection presentation. We present a case of such atypical presentation which was managed successfully with timely diagnosis and initiation of antiviral therapy. Therefore the atypical presentations of common infections should be kept in mind, especially in immunocompromised patients, so that early diagnosis can be made and appropriate therapy started in a timely manner.

Keywords: Immunocompromised; Transplant patients; Varicella-zoster.

INTRODUCTION

Varicella-zoster virus (VZV) infection causes two clinically distinct diseases. The primary infection causes varicella (chickenpox) whereas reactivation of latent virus causes herpes zoster characterized by painful vesicular eruptions in a dermatomal distribution. There are high chances of VZV reactivation in transplant patients because the immunosuppressive medication causes reduced T cell-mediated immunity. These patients are at risk of more frequent episodes of VZV infection as well as severe complications which include cutaneous dissemination and visceral involvement. Here we present case of a patient with disseminated cutaneous varicella-zoster infection which was successfully managed with antiviral therapy.

CASE REPORT

A 30 year old male renal transplant recipient, with post-transplant diabetes mellitus on standard triple-drug immunosuppression with good glycemic control, presented to our hospital with multiple vesicular lesions all over the body for 2 days. The lesions started as erythematous papules over abdomen and back and gradually progressed to involve the whole body, including the face in a few days and were associated with mild itching and pain but there was no pustular or hemorrhagic transformation. He also had low-grade fever for 2 days associated with myalgias but no chills/rigors. He did not have any cough, pain abdomen, altered sensorium or seizure indicating that there was no major organ involvement.

Physical examination revealed disseminated vesicular lesions with erythematous base in non dermatomal pattern all over the body including face (Fig 1,2). There was no notable induration, pustular or haemorrhagic transformation.

Figure 1: Clinical lesions at onset of disease

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Figure 2: Clinical lesions at onset of disease

Hemogram and renal functions were normal. However there was mild transaminitis with ALT/AST values being 260/284 U/L (normal 0-40 U/L). With the diagnosis of disseminated herpes zoster, patient was started on IV acyclovir along with other supportive treatment. Immunosuppression was decreased with careful monitoring of graft function. PCR testing was done for VZV-DNA and was found to be markedly increased. The patient responded well to the treatment and was shifted to oral medication after 7 days. Upon completion of antiviral regimen, he returned to the clinic after 14 days with healed crusted lesions (Fig 3) and after 1 month there was complete clearing of lesions with minimal residual scaring (Fig 4).

Figure 3: Clinical lesions - Healing Stage.

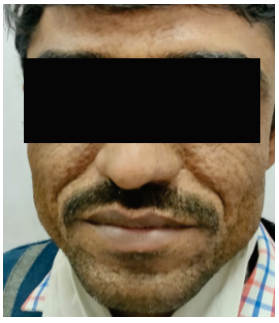

Figure 4: Clinical lesions - Healing Stage.

DISCUSSION

Solid-organ transplantation (SOT) has successfully increased over the past few decades owing to the use of potent immunosuppression to prevent rejection. However, infections become one of the main barriers to a disease free survival after transplant. Viral infections such as cytomegalovirus, herpes-simplex virus, BK polyoma virus, Epstein - Barr virus, hepatitis B & C and VZV are common in post transplant setting. These infections can occur de novo or reactivation of latent virus and can cause significant morbidity and mortality. Herpes reactivations have become a common problem in post-transplant patients. The incidence varies from 3-10% in renal transplants[1]. The increased incidence in immunocompromised patients is attributed to decreased cell-mediated immunity causing diminished VZV-specific cellular responses and VZV IgG antibody avidity[2]. Classic herpes zoster (HZ) presents as a dermatomal eruption of painful erythematous papules that evolve into grouped vesicles or bullae[3,4].

Disseminated cutaneous HZ is another grave complication of VZV infection and almost exclusively occurs with immunosuppression[3,5]. It manifests as an eruption of at least 20 widespread vesiculobullous lesions outside the primary and adjacent dermatomes[2]. Immunocompromised patients are also at increased risk for visceral involvement of VZV infection, which may affect vital organs such as the brain, liver, or lungs[5,6]. There are high chances of diagnostic delay and increased morbidity in immunocompromised patients because many of them can have atypical VZV infection presentation.

SOT patients with severe, disseminated, or complicated HZ should receive IV acyclovir[7]. In the first 3 to 6 months following the procedure, SOT patients receive cytomegalovirus prophylaxis with ganciclovir or valganciclovir, which also provides protection against HZ[8-13]. For patients not receiving cytomegalovirus prophylaxis, HSV prophylaxis with oral acyclovir or valacyclovir is given for at least the first month after transplantation, which also confers protection against HZ[11,14]. Antiviral therapy is critical during the early post-transplantation period when patients are most severely immunosuppressed and thus have the highest risk for VZV associated complications[15]. Although immunosuppression is lifelong in most SOT recipients,

there is insufficient evidence for extending prophylaxis beyond 6 months[11,16].

Vaccination remains a useful strategy to reduce the incidence of herpes zoster and the approach to vaccination depends upon the patient's age, choice of vaccine, underlying condition and when immunosuppression is planned. Vaccination for VZV is recommended for SOT candidates who are > 50 years old as long as it can be completed prior to immunosuppression.

CONCLUSION

The atypical presentations of common infections should be kept in mind, especially in immunocompromised patients, so that early diagnosis can be made and appropriate therapy started in a timely manner. Disseminated HZ can have potentially life-threatening visceral complications such as encephalitis, hepatitis, or pneumonitis[5,6]. As such, an understanding of prevention and treatment modalities for VZV infection among immunocompromised patients is critical. Because the morbidity associated with complications of VZV infection is substantial and the risks associated with antiviral agents are minimal, antiviral prophylaxis is recommended for 6 months following SOT or 1 year following HSCT, and prompt treatment is warranted in cases of reasonable clinical suspicion for HZ.

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